

1 CLAIMS:

Murbai > 1 An encapsulated optoelectronic device whose surface is coated with a material
5 comprised of a dielectric constant similar to the encapsulant, the thickness of the material
designed to make the optoelectronic properties of the optoelectronic device the same both pre and
post encapsulation.

2. A method of fabricating an encapsulated VCSEL having controlled characteristics, the method comprising the steps of:

10 fabricating the initial optoelectronic device;
measuring a characteristic of the device;
determining the thickness of a phase matching layer needed to maintain the characteristic substantially the same after encapsulation;
depositing the phase matching layer with the desired thickness; and
completing the processing, packaging and encapsulation of the device.

15 3. A method of fabricating an encapsulated VCSEL having a controlled slope efficiency, the method comprising the steps of:

20 fabricating the initial VCSEL;
measuring the slope efficiency of the VCSEL;
determining the thicknesses of a tuning layer and a phase matching layer calculated to achieve the desired slope efficiency;
depositing the tuning layer and phase matching layer having the determined thicknesses;
and
25 encapsulating the VCSEL.

add a2 >

Not B1